

## OIB - P-3 Orion 03/27/17 Science Report

**Aircraft:**

[P-3 Orion](#) ([See full schedule](#))

**Date:**

Monday, March 27, 2017

**Mission:**

OIB

**Mission Location:**

Greenland

**Mission Summary:**

This is a new mission, created from the 2010-2012 Northwest Coastal? suite of missions by sampling individual coast-parallel lines from those flights to form a grid spaced at 30-35 km from the coast to near the 2000m contour line. Two additional bedrock-mapping lines in the Tracy/Heilprin catchment were also taken.

This mission was chosen since it was the highest priority flight with clear weather, and also since it provided an opportunity for gravimeter cal/val since it had been flown during past OIB campaigns. The weather for this mission was forecast to be mostly clear with the possibility of clouds or haze at the far northern end of the line. The forecast largely matched the conditions and good data was collected throughout most of the flight with ATM and DMS data lost due to clouds at the northern edge of the final coastal line and the final bedrock mapping lines of the Tracy/Heilprin catchment area. The radars collected good data throughout, though MCoRDS was shut off the first ~100 miles of the flight so as not to interfere with aircraft communications near the Thule airport.

**Data volumes**

ATM: T5: 28 Gb      T6: 141 Gb

FLIR: 14 Gb

Cambot: 39 Gb

KT19: 10 Mb

DMS: 112 Gb

Snow/Ku radar: 1.3 Tb (2-8 GHz operation at points with non-level flying or when above 1800 feet)

MCoRDS: 1.7 Tb

Accumulation radar: 1.2 Tb

Gravity: 3 Gb

data on: 1104

data off: 1811

**Submitted by:**

Nathan T. Kurtz on 03/27/17

**File:**

 [nwcoastalA.pdf](#)

**Related Flight Report:**

### P-3 Orion 03/27/17

**Flight Number:**

Science Flight #10 - Northwest Coastal A Line

**Payload Configuration:**

OIB Arctic

**Nav Data Collected:**

No

**Total Flight Time:**

7.4 hours

**Submitted by:**

Janet Letchworth on 03/28/17

**Flight Segments:**

|                     |                        |                |                  |
|---------------------|------------------------|----------------|------------------|
| <b>From:</b>        | BGTL                   | <b>To:</b>     | BGTL             |
| <b>Start:</b>       | 03/27/17 10:54 Z       | <b>Finish:</b> | 03/27/17 18:20 Z |
| <b>Flight Time:</b> | 7.4 hours              |                |                  |
| <b>Log Number:</b>  | <a href="#">17P006</a> | <b>PI:</b>     | Nathan Kurtz     |

|                           |   |
|---------------------------|---|
| <b>Funding Source:</b>    | Bruce Tagg - NASA - SMD - ESD Airborne Science Program  |
| <b>Purpose of Flight:</b> | Science   |
| <b>Comments:</b>          | The flight covered the Northwest Coastal A flight line. |

**Flight Hour Summary:**

|                                       |               |
|---------------------------------------|---------------|
|                                       | <b>17P006</b> |
| <b>Flight Hours Approved in SOFRS</b> | 333.6         |
| <b>Total Used</b>                     | 307.1         |
| <b>Total Remaining</b>                | 26.5          |

**17P006 Flight Reports**

| Date                                | Flt #  | Purpose of Flight | Duration | Running Total | Hours Remaining |
|-------------------------------------|--|-------------------|----------|---------------|-----------------|
| <a href="#">02/24/17</a>            | Airworthiness Test Flight  | Check             | 1        | 1             | 332.6           |
| <a href="#">02/26/17</a>            | Project Test Flight #1   | Check             | 4.9      | 5.9           | 327.7           |
| <a href="#">02/27/17</a>            | Project Test Flight #2   | Check             | 3        | 8.9           | 324.7           |
| <a href="#">03/07/17</a>            | Transit Flight   | Transit           | 8.2      | 17.1          | 316.5           |
| <a href="#">03/09/17</a>            | Science Flight #1 - North Pole Transect                                    | Science           | 8        | 25.1          | 308.5           |
| <a href="#">03/10/17</a>            | Science Flight #2 - Laxon Line   | Science           | 8.5      | 33.6          | 300             |
| <a href="#">03/11/17 - 03/12/17</a> | Science Flight #3 - Chukchi West Line                                      | Science           | 8        | 41.6          | 292             |
| <a href="#">03/12/17 - 03/13/17</a> | Science Flight #4 - North Beaufort Loop Line                               | Science           | 8.1      | 49.7          | 283.9           |
| <a href="#">03/14/17 - 03/15/17</a> | Science Flight #5 - East Beaufort Loop Line                                | Science           | 8        | 57.7          | 275.9           |
| <a href="#">03/20/17</a>            | Science Flight #6 - Sea Ice South Basin Transect (to Thule)                | Science           | 8.1      | 65.8          | 267.8           |
| <a href="#">03/22/17</a>            | Science Flight #7 - North Flux 02  | Science           | 7.9      | 73.7          | 259.9           |
| <a href="#">03/23/17</a>            | Science Flight #8 - Zig Zag West Line                                      | Science           | 7.9      | 81.6          | 252             |
| <a href="#">03/24/17</a>            | Science Flight #9 - CryoVEx Line   | Science           | 5.8      | 87.4          | 246.2           |
| <a href="#">03/27/17</a>            | Science Flight #10 - Northwest Coastal A Line                              | Science           | 7.4      | 94.8          | 238.8           |
| <a href="#">03/28/17</a>            | Science Flight #11 - North Central Cap 01 Line                             | Science           | 7.6      | 102.4         | 231.2           |
| <a href="#">03/29/17</a>            | Science Flight #12 - Ellesemere Island 01 Line                             | Science           | 7.6      | 110           | 223.6           |
| <a href="#">03/30/17</a>            | Science Flight #13 - Ellesemere South Line                                 | Science           | 7.9      | 117.9         | 215.7           |
| <a href="#">03/31/17</a>            | Science Flight #14- Alexander-Petermann Line                               | Science           | 6.5      | 124.4         | 209.2           |
| <a href="#">04/03/17</a>            | Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit      | Science           | 7.4      | 131.8         | 201.8           |
| <a href="#">04/05/17</a>            | Science Flight #16 - Svalbard North Line (High Priority)                   | Science           | 7        | 138.8         | 194.8           |
| <a href="#">04/06/17</a>            | Science Flight #17- Svalbard South Mission (High Priority)                 | Science           | 8.5      | 147.3         | 186.3           |
| <a href="#">04/07/17</a>            | Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL | Science           | 8.3      | 155.6         | 178             |
| <a href="#">04/10/17</a>            | Science Flight #19- North Central Gap 3                                    | Science           | 7.8      | 163.4         | 170.2           |
| <a href="#">04/11/17</a>            | Science Flight #20- CryoVex 2 (High Priority)                              | Science           | 7.8      | 171.2         | 162.4           |

|                          |  |         |     |       |       |
|--------------------------|--|---------|-----|-------|-------|
| <a href="#">04/12/17</a> | Science Flight #21-Northwest Coastal C                           | Science | 7.2 | 178.4 | 155.2 |
| <a href="#">04/13/17</a> | Science Flight #22-North Glaciers 02 Prime (High Priority)       | Science | 8.2 | 186.6 | 147   |
| <a href="#">04/14/17</a> | Science Flight #23-IceSat-2 North/CryoSat-2 SARIn                | Science | 7   | 193.6 | 140   |
| <a href="#">04/17/17</a> | Science Flight #24-Humboldt 01(High Priority)                    | Science | 7.8 | 201.4 | 132.2 |
| <a href="#">04/19/17</a> | Science Flight #25-Sea Ice - South Canada Basin (MediumPriority) | Science | 7.8 | 209.2 | 124.4 |
| <a href="#">04/20/17</a> | Transit Flight to Kangerlussuaq                                  | Transit | 3   | 212.2 | 121.4 |
| <a href="#">04/21/17</a> | Science Flight #26-Southeast Coastal                             | Science | 8   | 220.2 | 113.4 |
| <a href="#">04/22/17</a> | Science Flight #27-Helheim-Kangerd                               | Science | 7.8 | 228   | 105.6 |
| <a href="#">04/24/17</a> | Science Flight #28-Geikie 01 (High Priority)                     | Science | 8   | 236   | 97.6  |
| <a href="#">04/26/17</a> | Science Flight #29-Devon-Bylot (Medium Priority)                 | Science | 7.9 | 243.9 | 89.7  |
| <a href="#">04/28/17</a> | Science Flight #30-Penny 01 (Medium Priority)                    | Science | 6   | 249.9 | 83.7  |
| <a href="#">04/29/17</a> | Science Flight #31-Thomas - Jakobshavn 01                        | Science | 8.4 | 258.3 | 75.3  |
| <a href="#">05/01/17</a> | Science Flight #32-Thomas - Jakobshavn-Eqip-Store                | Science | 8.4 | 266.7 | 66.9  |
| <a href="#">05/02/17</a> | Science Flight #33-Thomas - ICESat-2 Central                     | Science | 7.9 | 274.6 | 59    |
| <a href="#">05/03/17</a> | Science Flight #34-Thomas - Southwest Coastal A                  | Science | 8.3 | 282.9 | 50.7  |
| <a href="#">05/05/17</a> | Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority) | Science | 8.2 | 291.1 | 42.5  |
| <a href="#">05/06/17</a> | Science Flight #36-Helheim-K-EGIG-Summit                         | Science | 8   | 299.1 | 34.5  |
| <a href="#">05/08/17</a> | Science Flight #37-Southeast Glaciers 01 (High Priority)         | Science | 8   | 307.1 | 26.5  |

*Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.*

**Source URL:** [https://airbornescience.nasa.gov/science\\_reports/OIB\\_-\\_P-3\\_Orion\\_03\\_27\\_17\\_Science\\_Report](https://airbornescience.nasa.gov/science_reports/OIB_-_P-3_Orion_03_27_17_Science_Report)